

Deburring internal bores of a cylinder head.

CUSTOMIZABLE CROSSHOLE DEBURRING SOLUTIONS

Replacement Bore-Rx Brush Heads and Reusable Bore-Rx Arbors

In high production applications, reusable arbors reduce manufacturing costs by allowing the use of inexpensive brush head replacements. Brush heads are made-to-order in diameters ranging from 7/8" to 1-1/2" with face widths of 1/4" to 1". They are available on 3/16" and 1/4" pins. The pin diameter is based on the application and determines brush density. Contact Application Engineering at 888-299-APPS (2777) for more information.



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1000000

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26908

26915

mm

# BORE-RX<sup>™</sup> CROSSHOLE DEBURRING BRUSHES



These brushes are designed for automated applications in CNC machining centers and dedicated machines. They are ideal for removing burrs from internal edges and finishing bores. Since they eliminate off-hand deburring, they improve part-to-part consistency and reduce direct labor content. Bore-Rx brushes are available in sizes ranging from 7/8" to 4" and can be readily adapted into a machining center's tool changer using an end-mill holder or 3/8" collet.

#### **Operating Parameters For Bore-Rx Brushes**

| Brush<br>Diameter | Recommended<br>RPM | Recommended<br>Feed Rate |  |  |
|-------------------|--------------------|--------------------------|--|--|
| 5/8" - 7/8"       | 3000               | 20"/min                  |  |  |
| 1" - 1-1/2"       | 3000               | 20"/min                  |  |  |
| 2" - 2-1/2"       | 2000               | 20"/min                  |  |  |
| 3" - 4"           | 1500               | 20"/min                  |  |  |

#### **Tool Paths for Crosshole Deburring**

An effective tool path for most crosshole deburring jobs is circular interpolation using the following guidelines to determine diameter of interpolation. The interpolation should be performed at a depth where the center of the brush face is at the center of the intersecting hole.

Diameter of Interpolation = Hole Dia. - 0.975 x Brush Dia.

#### **Tool Paths for Bore Finishing**

Nylox<sup>®</sup> brushes can be used to improve the surface finish of bores. The best tool path normally involves helically interpolating the bore. The above recommendations for speed, feed and diameter of interpolation are also valid for bore finishing. The use of coolant is highly recommended in order to achieve maximum surface finish improvement.

### BORE-RX BRUSHES - 3/8" Stem - Crimped Round Black Ceramic Filament

| Diameter | Filament<br>Dia./Grit | Face<br>Width | Trim<br>Length | Overall<br>Length | Max.<br>RPM | Standard<br>Pack | ltem<br>Number |
|----------|-----------------------|---------------|----------------|-------------------|-------------|------------------|----------------|
| 7/8"     | .026"/120             | 3/4"          | .160"          | 4-3/4"            | 8,000       | 1                | 17206          |
| 1"       | .026"/120             | 3/4"          | .215"          | 4-3/4"            | 8,000       | 1                | 17208          |
| 1-1/4"   | .026"/120             | 3/4"          | .345"          | 4-3/4"            | 8,000       | 1                | 17210          |
| 1-1/2"   | .026"/120             | 1"            | .475"          | 5"                | 8,000       | 1                | 17212          |
| 2"       | .026"/120             | 1"            | .535"          | 3-1/4"            | 6,000       | 1                | 17215          |
| 2-1/2"   | .055"/80              | 1"            | .765"          | 3-1/4"            | 6,000       | 1                | 17217          |
| 3"       | .026/120              | 1"            | .560"          | 3-1/4"            | 6,000       | 1                | 86150          |
|          | .043/120              |               |                |                   |             |                  | 86151          |
|          | .055/80               |               |                |                   |             |                  | 86152          |
| 4"       | .026/120              | 1"            | 1.040"         | 3-1/4"            | 6,000       | 1                | 86154          |
|          | .043/120              |               |                |                   |             |                  | 86155          |
|          | .055/80               |               |                |                   |             |                  | 86156          |

Note: All Bore-Rx brush stems have a 2" long flat for use in end mill holders. Alternatively, they can be mounted in 3/8" collets

# **TUBE BRUSHES**



86155

17208

Nylox<sup>®</sup> power tube brushes are ideal for internal deburring and finishing applications in tubular component parts, drilled and tapered holes, and machined bores and passages. These brushes are suitable for use in drill presses and manual and CNC machine tools. See page 88 for operating guidelines.

## TUBE BRUSHES - Micro Abrasive - For ultra-fine deburring and finishing of small internal holes.

|   |          | Length of<br>Brush Part | Stem<br>Diameter | For Hole Diameters  |               | Overall | Standard | ltem   |
|---|----------|-------------------------|------------------|---------------------|---------------|---------|----------|--------|
|   | Diameter |                         |                  | Decimal             | Fraction      | Length  | Pack     | Number |
|   |          |                         | 2000             | Grit Alumin         | um Oxide Fila | ament   |          |        |
|   | .030"    | 1/2"                    | .015             | .031"               | 1/32"         | 4"      | 10       | 26900  |
|   | .050"    | 1/2"                    | .022             | .047"               | 3/64"         | 4"      |          | 26901  |
|   | .075"    | 3/4"                    | .033             | .063"               | 1/16"         | 4"      |          | 26902  |
|   | .090"    | 3/4"                    | .041             | .078"               | 5/64"         | 4"      |          | 26903  |
|   | .105"    | 1"                      | .041             | .094"               | 3/32"         | 4"      |          | 26904  |
|   | .125"    | 1"                      | .064             | .109"               | 7/64"         | 4"      |          | 26905  |
| _ | .135"    | 1"                      | .075             | .125"               | 1/8"          | 4"      |          | 26906  |
|   |          |                         | 600              | <b>Grit Aluminu</b> | ım Oxide Fila | ment    |          |        |
|   | .165"    | 1"                      | .087             | .156"               | 5/32"         | 5"      | 10       | 26907  |
|   | .190"    | 1"                      | .087             | .188"               | 3/16"         | 5"      |          | 26908  |
|   | .260"    | 1"                      | .115             | .250"               | 1/4"          | 5"      |          | 26909  |
|   | .325"    | 1"                      | .115             | .313"               | 5/16"         | 5"      |          | 26910  |
|   | .385"    | 1"                      | .147             | .375"               | 3/8"          | 5"      |          | 26911  |
|   | .515"    | 1"                      | .194             | .500"               | 1/2"          | 5"      |          | 26912  |
|   | .640"    | 1"                      | .194             | .625"               | 5/8"          | 5"      |          | 26913  |
|   | .765"    | 1"                      | .212             | .750"               | 3/4"          | 5"      |          | 26914  |
|   | .890"    | 1"                      | .212             | .875"               | 7/8"          | 5"      |          | 26915  |